

CLAIMS

1. A method of operating an optical receiver system, said method comprising:

5 receiving an optical signal;
converting said optical signal to an electrical signal;
automatically identifying a clock rate of said electrical signal; and
using said identified clock rate to select a signal type of said optical signal from a set of possible signal types.

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2. The method of claim 1 wherein automatically identifying said clock rate comprises:

attempting to lock to a bit clock of said electrical signal using a plurality of clock rates;

15 upon achieving lock, determining a current one of said plurality of clock rates to be said identified clock rate.

3. The method of claim 2 wherein automatically identifying said clock rate comprises:

evaluating a frequency difference between a bit clock recovered from said signal
and a reference clock;

determining said identified clock rate based on said difference.

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4. The method of claim 1 further comprising:

based on said signal type, selecting a traffic processing block to further process
said electrical signal.

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5. The method of claim 1 further comprising:

based on said signal type, selecting a performance monitoring method to monitor
quality of said optical signal.

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6. The method of claim 1 wherein one of said possible signal types is

SONET OC-192.

7. The method of claim 1 wherein one of said possible signal types is SDH

STM-64.

8. The method of claim 1 wherein one of said possible signal types is 10
Gigabit Ethernet having a bit rate of 10.325 Gbps.

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9. The method of claim 1 wherein one of said possible signal types is G.709
having a bit rate of 10.709 Gbps.

10. The method of claim 1 wherein one of said possible signal types is 10
10 Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090
Gbps.

11. Apparatus for operating an optical receiver system, said apparatus
comprising:

15 a clock recovery block that recovers a clock signal from a received optical signal;

and

a control processor that directs said clock recovery block to attempt to lock to said
optical signal using a plurality of clock rates, and that upon achieving lock using a clock
rate matching that of said optical signal, employs said matching clock rate to determine a
20 signal type of said optical signal.

12. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a traffic processing block to further process said electrical signal.

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13. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a performance monitoring block to monitor quality of said optical signal.

10 14. The apparatus of claim 11 wherein one of said possible signal types is SONET OC-192.

15. The apparatus of claim 11 wherein one of said possible signal types is SDH STM-64.

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16. The apparatus of claim 11 wherein one of said possible signal types is 10 Gigabit Ethernet having a bit rate of 10.325 Gbps.

17. The apparatus of claim 11 wherein one of said possible signal types is G.709 having a bit rate 10.709 Gbps.

5 18. The apparatus of claim 11 wherein one of said possible signal types is 10 Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090 Gbps.

19. Apparatus for operating an optical receiver system, said apparatus
10 comprising:

a clock recovery block that receives a clock signal from a received optical signal and measures a difference of rate between said clock signal and a reference clock; and

a control processor that, based on said difference of rate, determines a signal type
of said received optical signal.

15 20. The apparatus of claim 11 wherein said control processor, based on said signal type, selects a traffic processing block to further process said electrical signal.

21. The apparatus of claim 19 wherein said control processor, based on said signal type, selects a performance monitoring block to monitor quality of said optical signal.

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22. The apparatus of claim 19 wherein one of said possible signal types is SONET OC-192.

23. The apparatus of claim 19 wherein one of said possible signal types is
10 SDH STM-64.

24. The apparatus of claim 19 wherein one of said possible signal types is 10 Gigabit Ethernet having a bit rate of 10.325 Gbps.

15 25. The apparatus of claim 19 wherein one of said possible signal types is G.709 having a bit rate 10.709 Gbps.

26. The apparatus of claim 19 wherein one of said possible signal types is 10
Gigabit Ethernet employing Forward Error Correction and having a bit rate of 11.090
Gbps.

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27. Apparatus for operating an optical receiver system, said apparatus
comprising:

means for receiving an optical signal;

means for converting said optical signal to an electrical signal;

10 means for automatically identifying a clock rate of said electrical signal; and

means for using said identified clock rate to select a signal type of said optical
signal from a set of possible signal types.

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